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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,517	06/24/2003	Jack Chen	M311	8871
7590	05/28/2004		EXAMINER	
Robert L. Marsh P.O. Box 4468 Wheaton, IL 60189-4468			FITZGERALD, JOHN P	
			ART UNIT	PAPER NUMBER
			2856	

DATE MAILED: 05/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Applicati n No.

10/602,517

Applicant(s)

CHEN, JACK

Examiner

John P Fitzgerald

Art Unit

2856

*pw*

-- The MAILING DATE of this c mmunication appears on th c ver she t with th correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 6 and 15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-14 and 16-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 6 and 15 are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 June 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Pri rity under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. This application contains claims directed to the following patentably distinct species of the claimed invention: Figures 1-5; Figure 6 and Figure 7.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1, 12 and 21 are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

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2. During a telephone conversation with Mr. Robert L. Marsh on 21 May 2004 a provisional election was made without traverse to prosecute the invention of Figures 1-5, claims 1-5, 7-15 and 17-23. Affirmation of this election must be made by applicant in replying to this Office action. Claims 6 (reading on Figure. 6) and 15 (reading on Figure 7) are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

### ***Specification Objections***

3. The disclosure is objected to because of the following informalities: Title of the invention is missing letters from particular words. Appropriate correction is required.

### ***Drawing Objections***

4. The drawings are objected to because the Specification indicates that the north and south poles are in opposite locations as to those indicated (element 28) within the Figures. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. § 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-12, 16 and 23 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Namely, claim 1 recites in part: "one of said magnetically

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conductive members” in lines 8 and 9. Only one magnetically conductive member has been claimed, therefore it is unclear if an additional magnetically conductive member is being claimed, rendering the claim indefinite. The instant elected Figures 1-5 apparently indicate a single magnetically conductive member. Claim 10 recites the limitation "the electronic device" in line 1. There is insufficient antecedent basis for this limitation in the claim. Claim 23 recites the limitation "said means for varying the portion of the said magnetic field" in lines 1 and 2. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

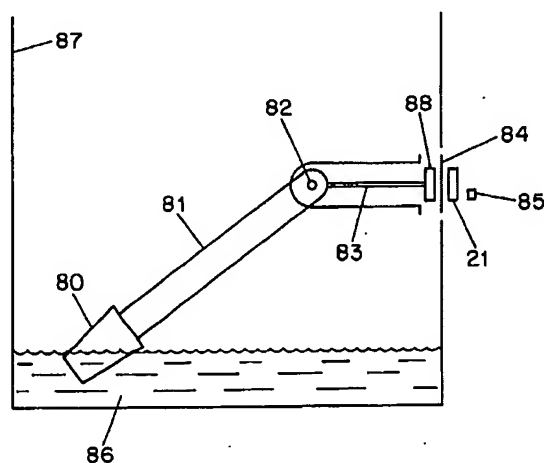
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

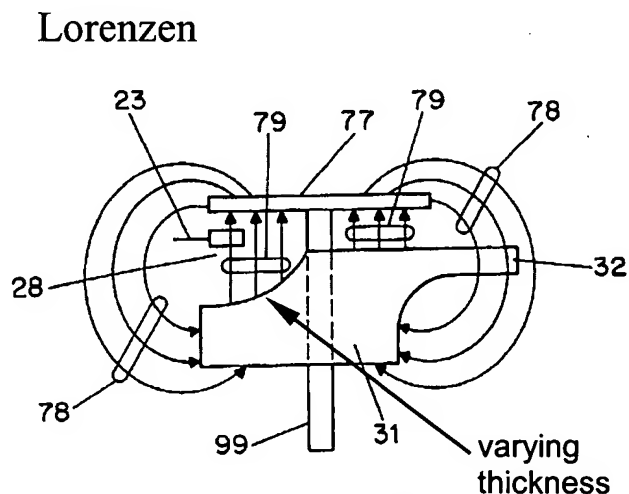
8. As best understood, claims 1-5, 7-12, 16 and 23 are rejected under 35 U.S.C. § 102(e) as being anticipated by US 6,584,838 to Lorenzen. Lorenzen discloses a device (Figs. 1-26) for measuring the volume of a flammable liquid (i.e. fuels, as recited in claims 10-12) (Lorenzen: col. 1, lines 39-44) in a container (87) having a float (80) moveable in response to changes in the volume (liquid level) of the liquid in the container, a magnetically conductive member (88, 21, 28) (a magnet, as recited in claim 5)) having a magnetic field passing therethrough, a Hall-Effect

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sensor (85, 28) (as recited in claim 9) for sensing the strength of a portion of the magnetic field and for generating a signal responsive to the strength and thus indicative of the volume of liquid in the container as means connected to the float that moves the magnetically conductive member rotationally (i.e. non-linearly (see Figs. 6 & 7, Lorenzen: cols. 4 and 5), as recited in claim 2) relative to the sensor, thus altering the spacing between the sensor and the magnetically conductive member (see Figs. 21 & 22) (as recited in claim 4) and thus the strength of the magnetic field exposed to the sensor varies as a function of the volume of the container (as recited in claim 16); means (32) responsive to the signal for displaying the volume of the container; and means for varying a portion of the magnetic field wherein the magnetically conductive member has a varying thickness (see Figs. 21 & 22) (as recited in claim 23).



**FIG. 16**  
PRIOR ART



**FIG. 22**

9. Claims 13, 14 and 17-20 are rejected under 35 U.S.C. § 102(e) as being anticipated by US 6,584,838 to Lorenzen. Lorenzen discloses a device (Figs. 1-26) for detecting the volume of a flammable liquid (i.e. fuels, as recited in claims 13, 19 and 20) (Lorenzen: col. 1, lines 39-44) in a container (87) having a magnet (88, 21, 28) having a magnetic field, a Hall-Effect sensor

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(85, 28) (as recited in claim 14) for sensing the strength of the magnetic field, the sensor further generating an electronic output via an electronic device (i.e. A/D converters) receiving electronic output of the magnetic sensor that is a function of the strength of the magnetic field; and the magnet spaced a distance from the sensor that varies (rotationally) as a function of the volume of the liquid in the container (as recited in claims 13 and 18); further including a float (80) adapted for floating on the surface of the fuel, wherein the distance (i.e. air gap) of the magnet from the sensor varies as a function of the level of the float (note: curvilinear shape of the magnet (31) in Figs.21 & 22) Lorenzen: col. 6, line 62 to col. 7, line 8 and col. 10, lines 1-46)).

10. Claims 21 and 22 are rejected under 35 U.S.C. § 102(e) as being anticipated by US 6,584,838 to Lorenzen. Lorenzen discloses a device (Figs. 1-26) for detecting the volume of a flammable liquid (i.e. fuels, as recited in claims 13, 19 and 20) (Lorenzen: col. 1, lines 39-44) in a tank (87) having a means (88, 21, 28) for generating a magnetic field (a magnetically conductive member), a sensor (85, 28) means for sensing the field strength of a portion of the magnetic field and for generating a signal responsive to the portion to the portion of the magnetic field; means for varying the portion of the magnetic field detected by the sensor means wherein the portion detected by the sensor is a function of the volume of the tank, wherein the means for varying the distance between an outer surface of the magnetically conductive member and the sensor means via rotational movement.

11. As best understood, claims 1-5, 10-12 and 16 are rejected under 35 U.S.C. § 102(b) as being anticipated by US 6,199,428 to Estevez-Garcia et al. Estevez-Garcia et al. disclose a device (Figs. 1-4) for measuring the volume of a volatile liquid (i.e. fuels, as recited in claims 10-12) (Estevez-Garcia et al.: col. 1, lines 14 and 15) in a container (1) having a float (6)

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moveable in response to changes in the volume (liquid level) of the liquid in the container, a magnetically conductive member (5) (a magnet, as recited in claim 5)) having a magnetic field passing therethrough, a sensor (13) for sensing the strength of a portion of the magnetic field and for generating a signal responsive to the strength and thus indicative of the volume of liquid in the container as means connected to the float that moves the magnetically conductive member rotationally (i.e. non-linearly, as recited in claim 2) relative to the sensor, thus altering the spacing between the sensor and the magnetically conductive member (as recited in claim 4) and thus the strength of the magnetic field exposed to the sensor varies as a function of the volume of the container (as recited in claim 16); means (15) responsive to the signal for displaying the volume of the container.

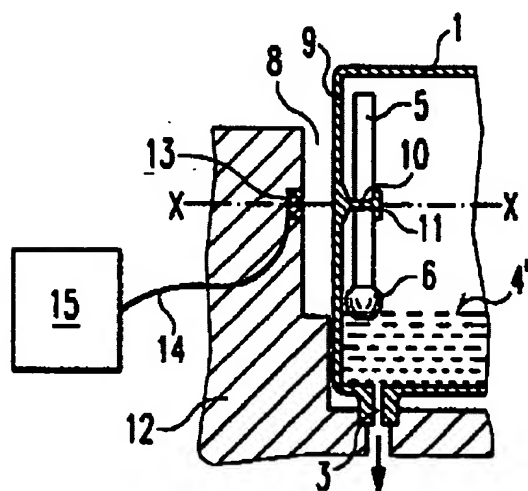


Fig. 1b

Estevez-Garcia et al.

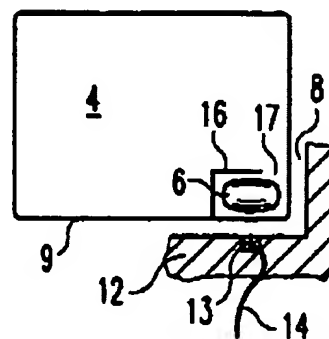


Fig. 3b

12. Claims 13 and 17-20 are rejected under 35 U.S.C. § 102(b) as being anticipated by US 6,199,428 to Estevez-Garcia et al. Estevez-Garcia et al. disclose a device (Figs. 1-4) for detecting the volume of a volatile liquid (i.e. fuels, as recited in claims 13, 19 and 20) (Estevez-



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Garcia et al.: col. 1, lines 14 and 15) in a container (1) having a magnet (5) having a magnetic field, a sensor (13) for sensing the strength of the magnetic field, the sensor further generating an electronic output via an electronic device (15) receiving electronic output of the magnetic sensor that is a function of the strength of the magnetic field; and the magnet spaced a distance from the sensor that varies (rotationally) as a function of the volume of the liquid in the container (as recited in claims 13 and 18); further including a float (6) adapted for floating on the surface of the fuel, wherein the distance of the magnet from the sensor varies as a function of the level of the float.

13. Claims 21 and 22 are rejected under 35 U.S.C. § 102(b) as being anticipated by US 6,199,428 to Estevez-Garcia et al. Estevez-Garcia et al. disclose a device (Figs. 1-4) for measuring the volume of a volatile liquid (i.e. fuels) (Estevez-Garcia et al.: col. 1, lines 14 and 15) in a tank (1) having a means (5) for generating a magnetic field (a magnetically conductive member), a sensor (13) means for sensing the field strength of a portion of the magnetic field and for generating a signal responsive to the portion to the portion of the magnetic field; means for varying the portion of the magnetic field detected by the sensor means wherein the portion detected by the sensor is a function of the volume of the tank, wherein the means for varying the distance between an outer surface of the magnetically conductive member and the sensor means via rotational movement.

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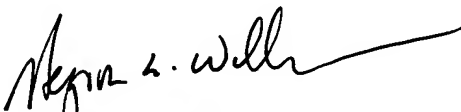
*Conclusion*

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ross, Eck, Allwine, Gier et al., Luetzow, Clark et al., Richeson, Wheeler et al., Jaffe et al., , Ratajaski et al. and Manley all teach and or anticipate various aspects of the claimed invention.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Fitzgerald whose telephone number is (571) 272-2843. The examiner can normally be reached on Monday-Friday from 7:00 AM to 3:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams, can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JF  
05/25/2004



HEZRON WILLIAMS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800